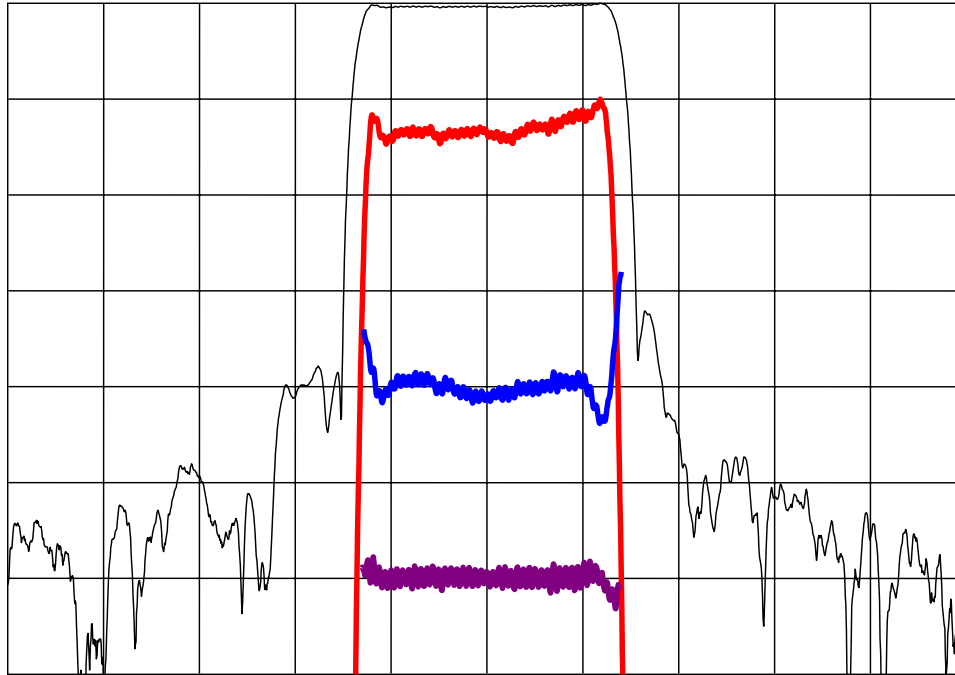


**DESCRIPTION**

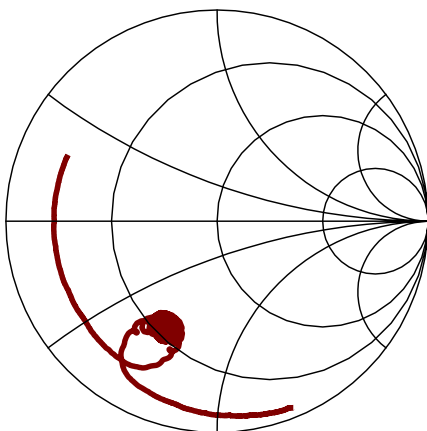
- 140 MHz SAW bandpass filter with 20 MHz bandwidth.
- 13.3 x 6.5 mm SMP package.
- RoHS compliant.

**TYPICAL PERFORMANCE**

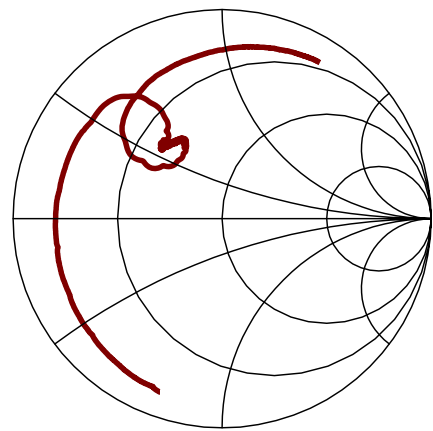


Horizontal: Frequency : 8 MHz/div  
 Vertical from Top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Phase Linearity : 5 deg/div  
 Group Delay : 100 ns/div

**S11**



**S22**



## SPECIFICATION

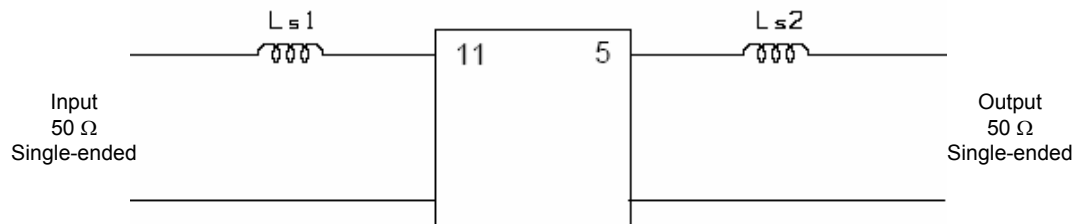
Parameter	Min	Typ	Max	Units
Center Frequency (Fc) <sup>1</sup>	-	140.0	-	MHz
Insertion Loss <sup>2</sup>	-	12.7	15	dB
Lower 1 dB Frequency	-	129.80	130.40	MHz
Upper 1 dB Frequency	149.60	150.50	-	MHz
Lower 3 dB Frequency	-	129.40	130.00	MHz
Upper 3 dB Frequency	150.00	151.00	-	MHz
Lower 30 dB Frequency	127.25	128.00	-	MHz
Upper 30 dB Frequency	-	152.40	152.75	MHz
Lower 40 dB Frequency	120.00	121.50	-	MHz
Upper 40 dB Frequency	-	158.50	160.00	MHz
Passband Ripple <sup>3</sup>	-	0.6	1.2	dB p-p
Group Delay Variation <sup>3</sup>	-	45	200	ns p-p
Absolute Delay	-	1.0	1.6	us
Rejection (10 to 120 MHz)	40	48	-	dB
Rejection (160 to 250 MHz)	40	46	-	dB
Source and Load Impedance	-	50	-	Ω
Ambient Temperature (Tref)	-	25	-	°C

- Notes:
1. Average of lower and upper 3 dB band edge frequencies.
  2. Measured at Fc.
  3. Evaluated over 139.3 to 149.7 MHz.
  4. Typical change of filter response with temperature is:  $\Delta f = (T-T_{ref}) \cdot T_c \cdot F_c$  in ppm.

## MAXIMUM RATINGS

Parameter	Min	Typ	Max	Units
Storage Temperature Range	-40	25	85	°C
Temperature Coefficient of Frequency (Tc) <sup>4</sup>	-	-94	-	ppm/°C
Input Power Level	-	0	10	dBm

## MATCHING CIRCUIT

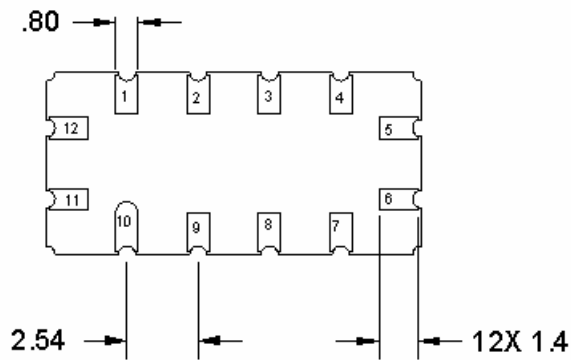
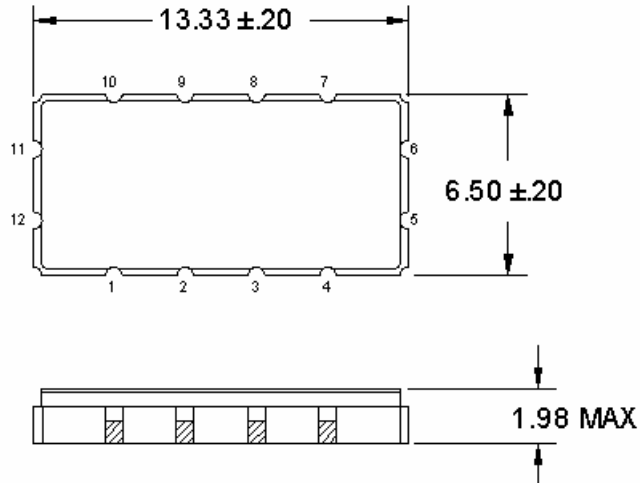


Typical component values:  
(Minimum inductor Q = 45)      Ls1 = 68 nH      Ls2 = 100 nH

### Notes:

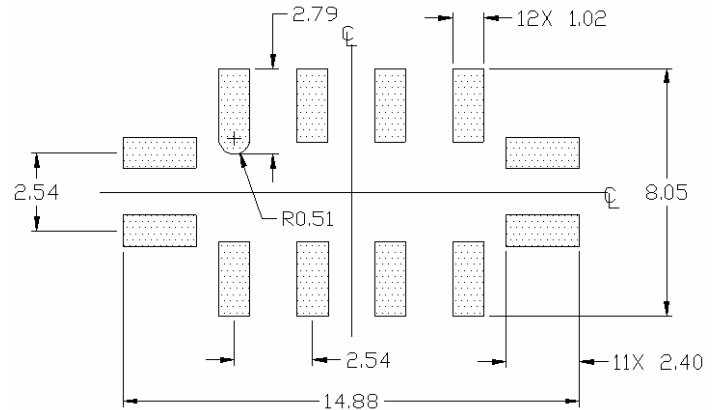
1. Recommend the use of +/-2% tolerance components.
2. Component values shown are for guidance only and may change depending on board layout.

**PACKAGE OUTLINE**



Package Material:  
Body:  $Al_2O_3$  ceramic  
Lid: Kovar, Ni plated  
Terminations: Au plating 1  $\mu$ m min,  
over a 1.3-8.9  $\mu$ m Ni plating

**SUGGESTED FOOTPRINT**



**Units:** mm

Tolerances are  $\pm 0.15$  mm except for the overall length and width, which are nominal values.

**Pad Configuration:**

Input: 11  
Output: 5  
Ground: 1,2,3,4,6,7,8,9,10,12

ISO 9001  
Registered

All specifications are believed to be accurate and reliable. However, Spectrum Microwave reserves the right to make changes without notice.  
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